

31

| | | | |
|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/627,881 | SAED, ARYAN | |
| | Examiner | Art Unit | |
| | Siu M. Lee | 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/19/2007.
2. ☒ The allowed claim(s) is/are 1,4-7,9,12 and 13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Graciela G. Cowger at 503-222-3613 on 5/3/2007.

(1) Regarding claim 7, line 1, change "LINC" to ---**Linear amplification with Nonlinear Components (LINC)**---.

Allowable Subject Matter

1. Claims 1,4-6,7,9,12,13 are allowed.
2. The following is an examiner's statement of reasons for allowance:

(1) Regarding claim 1, 4-6:

The present invention describes a digital branch calibrator for an RF transmitter wherein a phase and/or gain adjusting component comprises a complex accumulator to decimate a feedback signal. The closest prior art, Wright et al. (US 6,313,703 B1) discloses the use of antiphase signals for predistortion training within an amplifier system. However, Wright fails to disclose the complex accumulator. The distinct

Art Unit: 2611

features have been added to the independent claim 1, therefore, rendering claim 1 and 4-6 allowable.

(2) Regarding claim 7

The present invention describes a digital branch calibrator for an RF transmitter comprises a DC removal component for removing DC signal component of a feedback signal. The closest prior art, Wright et al. (US 6,313,703 B1) discloses the use of antiphase signals for predistortion training within an amplifier system. However, Wright fails to disclose the DC removal component for removing DC signal component of the feedback signal. The distinct features have been added to the independent claim 7, therefore, rendering claim 7 allowable.

(3) Regarding claim 9:

The present invention describes a digital branch calibrator for an RF transmitter wherein the method for compensating the phase and/or gain imbalance is performed by alternating the iterations of phase adjustment and iterations of gain adjustment. The closest prior art, Wright et al. (US 6,313,703 B1) discloses the use of antiphase signals for predistortion training within an amplifier system. However, Wright fails to the method for compensating the phase and/or gain imbalance is performed by alternating the iterations of phase adjustment and iterations of gain adjustment. The distinct features have been added to the independent claim 9, therefore, rendering claim 9 allowable.

(4) Regarding claim 12:

The present invention describes a digital branch calibrator for an RF transmitter wherein the adjusting includes producing a phase gradient and gain gradient calculated

Art Unit: 2611

from a magnitude of a feedback signal, a sign of differential of the phase adjustment from one iteration to a next iteration and a sign of a differential of a magnitude of said feedback signal from one iteration to a next iteration. The closest prior art, Wright et al. (US 6,313,703 B1) discloses the use of antiphase signals for predistortion training within an amplifier system. However, Wright fails to disclose the feature in above. The distinct features have been added to the independent claim 12, therefore, rendering claim 12 allowable.

(5) Regarding claim 13:

The present invention describes a digital branch calibrator for an RF transmitter where a gain update signal(s) are calculated so as to limit the magnitude of said phasor fragment signals to a predetermined maximum value L and so that a magnitude of at least one of said phasor fragment signals has the value L. The closest prior art, Wright et al. (US 6,313,703 B1) discloses the use of antiphase signals for predistortion training within an amplifier system. However, Wright fails to disclose the feature in above. The distinct features have been added to the independent claim 13, therefore, rendering claim 13 allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Siu M. Lee whose telephone number is (571) 270-1083. The examiner can normally be reached on Mon-Fri, 7:30-4:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Siu M. Lee
5/3/2007


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER